

WHAT IS CLAIMED IS:

1. A method performed by a wireless communication system for managing peer-to-peer (P2P) communications, the method comprising the steps of:

5 (a) receiving a request from a mobile terminal for initiating a call to another mobile terminal;

(b) determining whether P2P communication can be established between the two mobile terminals;

10 (c) determining an operating mode of the two mobile terminals for P2P communication; and

(d) if the P2P communication can be established and if both mobile terminals are in a default mode for P2P communication, establishing P2P communication between the two mobile terminals.

2. The method of claim 1, wherein step (b) includes the steps of:

15 (i) determining whether both mobile terminals have subscribed P2P communication services; and

(ii) if both mobile terminals have subscribed the P2P communication services, determining whether both mobile terminals are suitable for using the P2P communication services.

3. The method of claim 1, further comprising the step of:

if one of the mobile terminals is in a prompt mode, sending a prompt to the mobile terminal in the prompt mode, along with information about incentives for using P2P communication services.

5 4. The method of claim 3, wherein step (d) includes the step of:

if the mobile terminal in the prompt mode selects the P2P communication services, allocating resources for setting up a P2P link between the two mobile terminals.

5. The method of claim 1, further comprising the step of:

10 if both mobile terminals are in the prompt mode, sending a prompt to the mobile terminals, along with information about incentives for using P2P communication services.

6. The method of claim 5, wherein step (d) includes the step of:

15 if both of the mobile terminals in the prompt mode select the P2P communication services, allocating resources for setting up a P2P link between the two mobile terminals.

7. The method of claim 1, 2, 3, 4, 5 or 6 further comprising the step of:

after the P2P communication between the two mobile terminals is completed, recording information relating to P2P communication services in at least one of a home location register and a visitor location register.

8. The method of claim 7, further comprising the step of:

5 after the P2P communication between the two mobile terminals is completed, sending discounted billing information to the mobile terminals.

9. The method of claim 4 or 6, further comprising the steps of, if a P2P link is not available between the two mobile terminals:

(i) taking back resources allocated to the P2P link; and

10 (ii) providing conventional communication services to the mobile terminals.

10. The method of claim 3 or 5, further comprising the step of calculating the incentives based on statistical benefits resulting from at least one of an increase in system capacity and an decrease in overall interference
15 in one cell.

11. The method of claim 3 or 5, further comprising the step of calculating the incentives in accordance with actual traffic load conditions and interference for a predetermined time duration.

12. A wireless communication system capable of managing peer-to-peer (P2P) communications, comprising:

means for receiving a request from a mobile terminal for initiating a call to another mobile terminal;

5 means for determining whether P2P communication can be established between the two mobile terminals;

means for determining an operating mode of the two mobile terminals for P2P communication; and

10 means for establishing P2P communication between the two mobile terminals, the establishing means establishing the P2P communication if the P2P communication can be established and if both mobile terminals are in a default mode for P2P communication.

13. The system of claim 12, wherein the first determining means includes:

15 means for determining whether both mobile terminals have subscribed P2P communication services; and

means for determining whether both mobile terminals are suitable for using the P2P communication services.

14. The system of claim 12, further comprising means for sending a prompt to any one of the mobile terminals in a prompt mode, along with information about incentives for using P2P communication services.

15. The system of claim 14, wherein the establishing means includes
5 means for allocating resources for setting up a P2P link between the two mobile terminals, the allocating means allocating the resources if all of the mobile terminals that are in the prompt mode select the P2P communication services.

16. The system of claim 12, 13, 14 or 15, further comprising means for
10 recording information relating to P2P communication services in at least one of a home location register and a visitor location register, the recording means recording the information after the P2P communication between the two mobile terminals is completed.

17. The system of claim 16, further comprising means for sending
15 discounted billing information to the mobile terminals, the sending means sending the discounted billing information after the P2P communication between the two mobile terminals is completed.

18. The system of claim 15, further comprising:

means for taking back resources allocated to the P2P link; and

means for providing conventional communication services to the mobile terminals;

wherein the taking back means takes back the resources if the P2P link is not available between the two mobile terminals;

5 wherein the providing means provides the conventional communication services if the P2P link is not available between the two mobile terminals.

19. The system of claim 14, further comprising means for calculating the incentives based on statistical benefits resulting from at least one of an increase in system capacity and an decrease in overall interference in one
10 cell.

20. The system of claim 14, further comprising means for calculating the incentives in accordance with actual traffic load conditions and interference for a predetermined time duration.